



Institute for the Study of Mongolian Dinosaurs
Монголын Динозаэр Судлалын Хүрээлэн

June 6, 2012

To whom it concerns:

I am the New York representative of the Mongolian Academy of Sciences and am the officially designated representative of President Elbegdorj Tsakhia of Mongolia in the matter of the *Tyrannosaurus bataar* skeleton presently in the care of Heritage Auctions.

I received my undergraduate education and Master's degree in Mongolia, my doctorate from the City University of New York, and engaged in postdoctoral research at the Museum of the Rockies. My education and doctoral research was on fossils from Mongolia, and I have conducted extensive paleontological fieldwork in the Gobi Desert of Mongolia. The following report is based on my examination of the specimen, my training in Paleontology, and my knowledge of Mongolian fossils.

On June 5th, 2012, I inspected the skeleton of *Tyramosaurus bataar* (better known in the scientific community as *Tarbosaurus baatar*) that is temporarily housed in the Cadogan Tate Fine Art Storage after it was auctioned by Heritage Auctions on May 20th, 2012.

The skeleton clearly represents a member of the family Tyrannosauridae. Key advanced, tyrannosaurid features that are present in the skeleton include the small, two-fingered arms and the large robust skull. The specimen can further be identified as *Tarbosaurus baatar* based on the generally narrow width of the skull and the nature of the contact of the nasal and maxilla bones of the skull. In these features it is distinctly different from *Tyramosaurus rex*, a close relative of *Tarbosaurus baatar*. Whereas *Tyramosaurus rex* is only known from North America, *Tarbosaurus baatar* is only known from Asia. Although fragmentary remains of large tyrannosaurids have been found in China and Kazakhstan, nearly complete skeletons of *Tarbosaurus baatar*, like the one under the care of Heritage Auctions, are only known from Mongolia. Nearly all of the Mongolian specimens have come from a fairly small area in the Gobi Desert of Mongolia called the Nemegt Basin. Furthermore, the fairly light color of the specimen and iron staining are consistent with skeletons collected from the Nemegt Basin. Most skeletons of *Tyramosaurus rex* from North America come from the Hell Creek and these skeletons are dark brown to black, quite unlike the Heritage Auctions specimen. Based on the above evidence, I conclude that this specimen was collected from Mongolia, probably in the Nemegt Basin.

Sincerely,

Bolortsetseg Minjin Ph.D.
Institute for the Study of Mongolian Dinosaurs
New York Representative of the Mongolian Academy of Sciences



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June 06, 2012

STATEMENT OF FOSSIL BONES

On June 5, 2012, the specimen auctioned on May 20th by Heritage Auctions was examined by three paleontologists, including myself, in the warehouse of Cadogan Tate Fine Art Storage in New York City.

The general appearance of the animal and the color of the bones indicate to us that this is the skull and skeleton of a *Tarbosaurus bataar* (also known as *Tyrannosaurus bataar*) from the Nemegt Formation of Mongolia. The bones are light colored (whitish to beige, rarely brownish because of an iron content of 2.2-8 percent), thus differing from most fossils of their North American relatives, which are dark, even black, due to secondary permineralization. The size and body proportions are consistent with this identification.

The following specific characters are identical as *Tarbosaurus bataar*:

- ✓ the number of maxillary and dentary alveoli,
- ✓ the ridge and socket arrangement of the maxillary-nasal articulation,
- ✓ the relatively smooth dorsal surface of the nasal,
- ✓ the non-inflated nature of bones like the lacrimal and ectopterygoid,
- ✓ the size and shape of the lacrimal pneumatopore,
- ✓ the lack of a pronounced lacrimal cornua,
- ✓ the presence of a low cornua on the postorbital,
- ✓ the forward extension of the sagittal crest onto the frontal,
- ✓ the nature of the contact between the lacrimal/prefrontal and the postorbital,
- ✓ the low but broad nuchal crest,
- ✓ the relatively large size of the first maxillary tooth (which has a J-shaped arrangement of the carinae at the base of the crown),
- ✓ the relatively small front limb (in comparison with the length of the femur)

Those characters are diagnostic of *Tarbosaurus bataar* and clearly shows that this is not any other tyrannosaurid species. *Tarbosaurus bataar* skeletons have only ever been recovered from the Nemegt basin and adjacent regions in Mongolia, which in my opinion indicates that this is a specimen that was poached from Mongolia. It was clear that lack of professional knowledge for excavation of the specimen some part of the skull and postcranium were destroyed by poachers. I suppose that the specimen was unearthed the period 1995-2005 from the Western Gobi Desert in Mongolia. Because it was not registered illegal diggers factum before mid of 1990s. But climax of poachers activities in Nemegtian dinosaur localities of Western Gobi desert was in 2000.

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June 5 2012
New York, New York

To His Excellency Elbegdorj Tsakhia, President of Mongolia

On June 5, 2012, the specimen auctioned on May 20th by Heritage Auctions was examined by three palaeontologists in the warehouse of Cadogan Tate Fine Art Storage in New York City. The general appearance of the animal and the color of the bones indicate to us that this is the skull and skeleton of a *Tarbosaurus bataar* (also known as *Tyrannosaurus bataar*) from the Nemegt Formation of Mongolia. The size and body proportions are consistent with this identification. Dr. Norell, did not participate in this investigation, however, he did examine the specimen during the auction preview.

A suite of specific characters is diagnostic of *Tarbosaurus bataar* and clearly shows that this is not any other tyrannosaurid species. These include:

- the number of maxillary and dentary tooth sockets
- the ridge and socket arrangement of the maxillary-nasal articulation
- the relatively smooth dorsal surface of the nasal
- the non-inflated nature of bones like the lacrimal and ectopterygoid
- the size and shape of the lacrimal pneumatopore
- the lack of a pronounced lacrimal cornua
- the presence of a low cornua on the postorbital
- the forward extension of the sagittal crest onto the frontal
- the nature of the contact between the lacrimal/prefrontal and the postorbital
- the low but broad nuchal crest
- the relatively large size of the first maxillary tooth (which has a J-shaped arrangement of the carinae at the base of the crown), and
- the relatively small front limb (in comparison with the length of the femur).

Tarbosaurus bataar skeletons have only ever been recovered from the Nemegt basin and adjacent regions in Mongolia, which in our strong opinion indicates that specimen was collected in Mongolia.

We feel that the specimen was largely restored and mounted outside of Mongolia, but even so the quality, color and fresh breaks on the bone indicate that the specimen was probably collected within the last ten years. The absence of claws, toes and most of the teeth suggest that these were collected by one or more separate groups, before the remaining skeleton was exhumed.



Philip J. Currie, MSc, PhD, FRSC

Professor and Canada Research Chair of Dinosaur Paleobiology at the University of Alberta, President of the Society of Vertebrate Paleontology



Mark Norell, PhD
Chairman and Curator, Division of Paleontology
American Museum of Natural History
New York, New York

Collectively we have worked for over 40 seasons in the area where *Tarbosaurus* skeletons have been collected in southern Mongolia. Both of us have also focused much of our scientific research on this dinosaur and its close relatives.